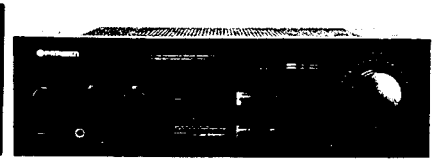
PIONEER®

Service Manual

CIRCUIT DESCRIPTIONS
REPAIR & ADJUSTMENTS



ORDER NO.
ARP-840-0

STEREO AMPLIFIER

A-66X(BK)
A-66X

- A-66X [BK] is Black Version of A-66X.
- MODEL A-66X [BK] COMES IN THREE VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Applicable model		Power requirement	Destination
	Black	Silver		
HEZ	O	O	AC220V, 240V (switchable)	European continent
HE	O	O	AC220V, 240V (switchable)	European continent
HB	O	–	AC220V, 240V (switchable)	United Kingdom

- This service manual is applicable to the HEZ, HE and HB types.
- As to the HE and HB types, please refer to pages 26.

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1. SPECIFICATIONS

Amplifier Section

Continuous average power output is 80 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.007% total harmonic distortion.

Continuous Power Output (both channels driven)
- 20 Hz to 20 kHz, 0.007%, 6 Ω . . . . . 90 W + 90 W
- 20 Hz to 20 kHz, 0.007%, 8 Ω . . . . . 80 W + 80 W

DIN Continuous Power Output (both channels driven)
- 1 kHz, 1%, 8 Ω . . . . . 95 W + 95 W

Dynamic Power
- 8Ω/4Ω/2Ω 115W/180W/220W

Total Harmonic Distortion
- 20 Hz to 20 kHz, 80 W, 8 Ω 0.007%

Cross-harmonic Distortion (50 Hz : 7 kHz = 4 : 1)
- Continuous power output 0.007%

Output Bandwidth (IHF · both channels driven)
- 0.05% . . . . . 5 Hz to 45 kHz

Damping Factor
- 1 kHz 60

Input (sensitivity/impedance)
- PHONO MM . . . . . 2.5 mV/50 kΩ
- PHONO MC . . . . . 0.2 mV/100 Ω
- TUNER, CD, TAPE PLAY, VIDEO/AUX . . . . . 150 mV/50 kΩ

Overload Level
- PHONO MM 1 kHz, 0.007% . . . . . 160 mV
- PHONO MC 1 kHz, 0.007% . . . . . 12 mV

Cartridge load capacity/load impedance
- PHONO MM . . . . . 220 pF/50 kΩ

Output (level/impedance)
- TAPE REC . . . . . 150 mV/2.2 kΩ

Frequency Response
- PHONO MM 20 Hz to 20 kHz . . . . . +0.3 dB, −0.3 dB
- PHONO MC 20 Hz to 20 kHz . . . . . +0.5 dB, −0.5 dB
- TUNER, CD, VIDEO/AUX 5Hz to 100kHz. . . . +0 dB, −3 dB

Tone Control
- BASS . . . . . +8 dB 100 Hz, −8 dB
- TREBLE . . . . . + 8 dB 10 kHz, −8 dB

Filter
- LOW (SUBSONIC) . . . . . 15 Hz 6 dB/oct

Loudness contour (volume control set at −30 dB position) . . . . . +6 dB 100 Hz/+3 dB 10 kHz

Hum and Noise (Short circuited, A network)
- PHONO MM . . . . . 86 dB
- PHONO MC . . . . . 70 dB
- TUNER, CD, TAPE PLAY, VIDEO/AUX . . . . . 105 dB

Hum and Noise (DIN, continuous power/50 mW)
- PHONO MM . . . . . 74 dB/64 dB
- TUNER, CD, TAPE PLAY, VIDEO/AUX. . 84 dB/65 dB

Miscellaneous

Power requirements
- HE model . . . . . a.c. 220 V ~, 50/60 Hz
- HB, YP models . . . . . a.c. 240 V ~, 50/60 Hz

Power Consumption
- HE, HB, YP models . . . . . 600 W

Dimensions . . . . . 420 (W) x 416 (D) x 134 (H) mm
16-9/16(W) x 16-3/8(D) x 5-1/4(H) in

Weight (without package) . . . . . 10.9 kg/23 lb 15 oz

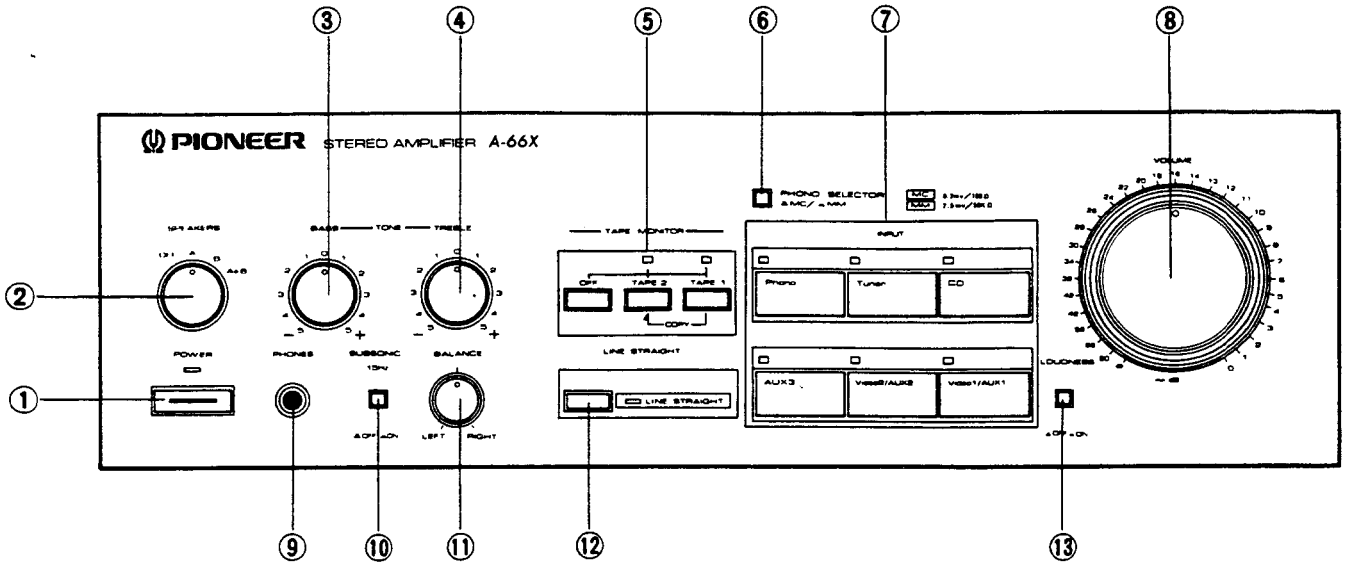
Furnished Parts

Operating Instructions 1

NOTES:

- *Specifications and design subject to possible modification without notice due to improvement.*
- **Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Claims for Amplifiers.*

2. FRONT PANEL FACILITIES



① POWER switch/indicator

Press to turn power to the unit ON and OFF.
Depressed position (ON): Power is supplied to the unit.
Released position (OFF): Power to the unit is disconnected.

② SPEAKERS selector switch

Use to select the speaker systems used for playback.
[OFF]
— No sound is produced from the speaker systems. Set to this position when using headphones.
[A]
— Sound is produced from the speaker systems connected to the SPEAKERS A terminals.
[B]
— Sound is produced from the speaker systems connected to the SPEAKERS B terminals.
[A + B]
— Sound is produced from both the speaker systems connected to the SPEAKERS A and SPEAKERS B terminals.

③ BASS tone control

Use to adjust the low-frequency tones. The central "0" position is the flat (normal) position. When turned to the right, low-frequency tones are emphasized; when turned to the left, low-frequency tones are de-emphasized.
This function does not operate when the LINE STRAIGHT switch is in the ON position.

④ TREBLE tone control

Use for adjusting the high-frequency tones.
The central "0" position is the flat (normal) position. When turned to the right, high-frequency tones are emphasized; when turned to the left, high-frequency tones are de-emphasized.
This function does not operate when the LINE STRAIGHT switch is in the ON position.

⑤ TAPE MONITOR switches/indicators

Use this switch to listen to tape playback, or to listen to the sounds being recorded during tape recording.
[TAPE 1]
— Set to this position to listen to the playback sound of the tape deck connected to the TAPE 1 PLAY terminals, or to monitor the sound being recorded on the tape deck connected to the TAPE 1 REC terminals.
[OFF]
— Leave set in this position when not listening to tape playback.
[TAPE 2]
— Set to this position to listen to the playback sound of the tape deck connected to the TAPE 2 PLAY terminals, or to monitor the sound being recorded on the tape deck connected to the TAPE 2 REC terminals.

⑥ PHONO SELECTOR switch

Set in accordance with the type of cartridge used in your record turntable.

[MC]
– Released position; set to this position when using an MC (moving coil) cartridge
[MM]
– Depressed position; set to this position when using an MM (moving magnet) cartridge, or an MC (moving coil) cartridge with high output of 1 mV or more.

⑦ INPUT switches/indicators

[CD]
– Press when listening to a compact disc playback with a CD player.
[Tuner]
– Press when listening to AM or FM broadcasts with a tuner.
[Phono]
– Press when listening to record playback on a turntable.
[Video 1/AUX 1]
– Press when listening to programs from a component connected to the VIDEO 1/AUX 1 terminals.
[Video 2/AUX 2]
– Press when listening to programs from a component connected to the VIDEO 2/AUX 2 terminals.
[AUX 3]
– Press when listening to programs from a component connected to the AUX 3 terminals.

⑧ VOLUME control

This control is used for controlling the sound volume.
When set to the [∞] position, sound volume is turned off; when set to the [0] position, sound volume is at a maximum.

⑨ PHONES jack

When using headphones, insert their plug into this jack.

⑩ SUBSONIC filter switch

Use this switch when playing records with coarse grooves.
[OFF]
– Released position; leave in this position for normal playback.
[15Hz]
– Depressed position; in this position, frequencies of 15Hz and below are cut, thus eliminating super-low-frequency noise caused by coarse record grooves, and thus helping prevent sound distortion.

⑪ BALANCE control

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the LEFT position and if the left side is louder, turn toward the RIGHT position.

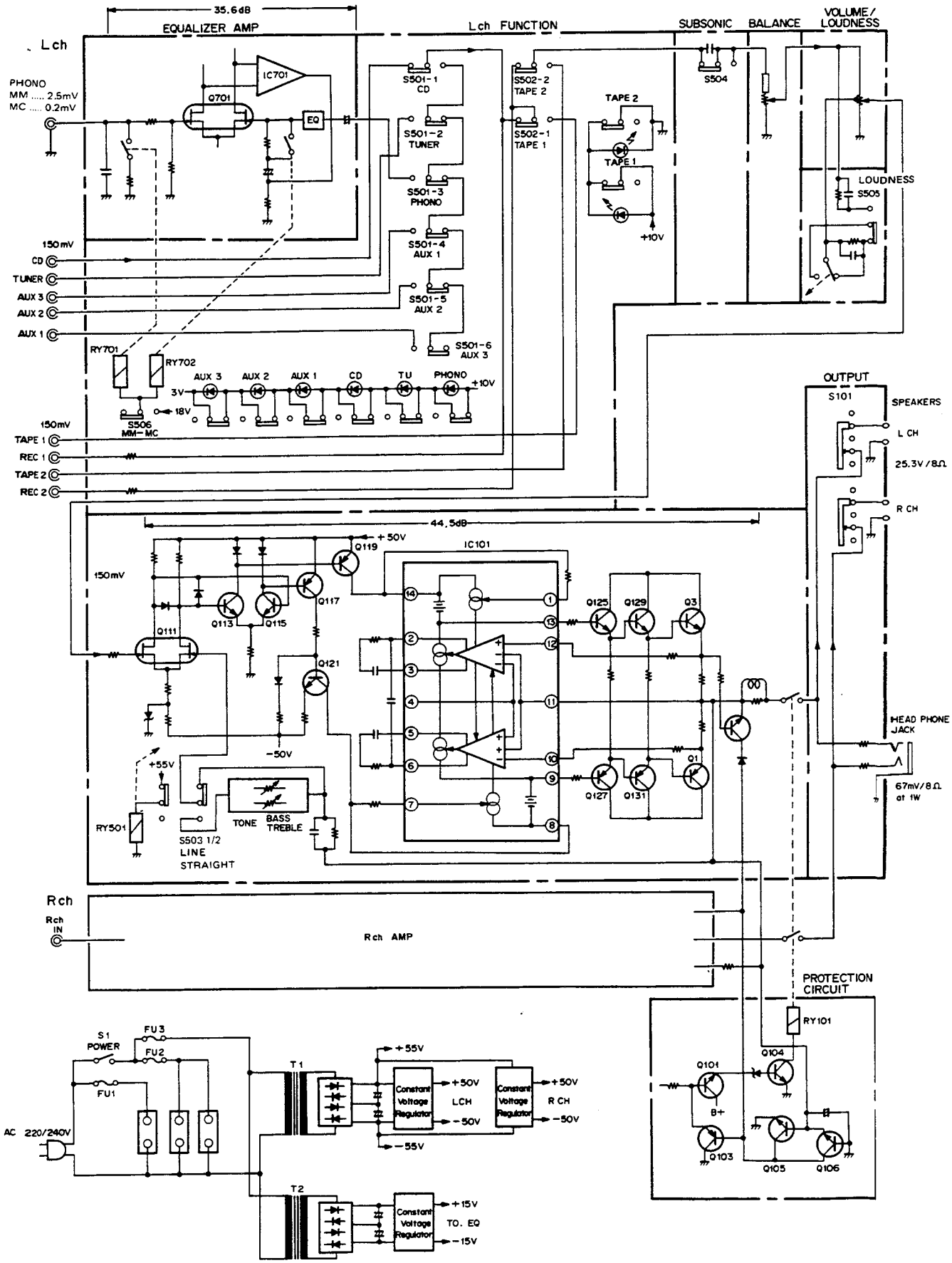
⑫ LINE STRAIGHT switch /indicator

By using this switch, the input signals from the various connected peripheral components can be played back through the amplifier's modifying (tone) circuit, or bypassing those circuits.
When the indicator is lighted, the function is ON. Input signals will bypass the modifying circuits and be played back with pure, flat-balanced tone.
When set to OFF, input signals will pass through the modifying circuits before being played back, thus allowing you to adjust bass and treble tone.

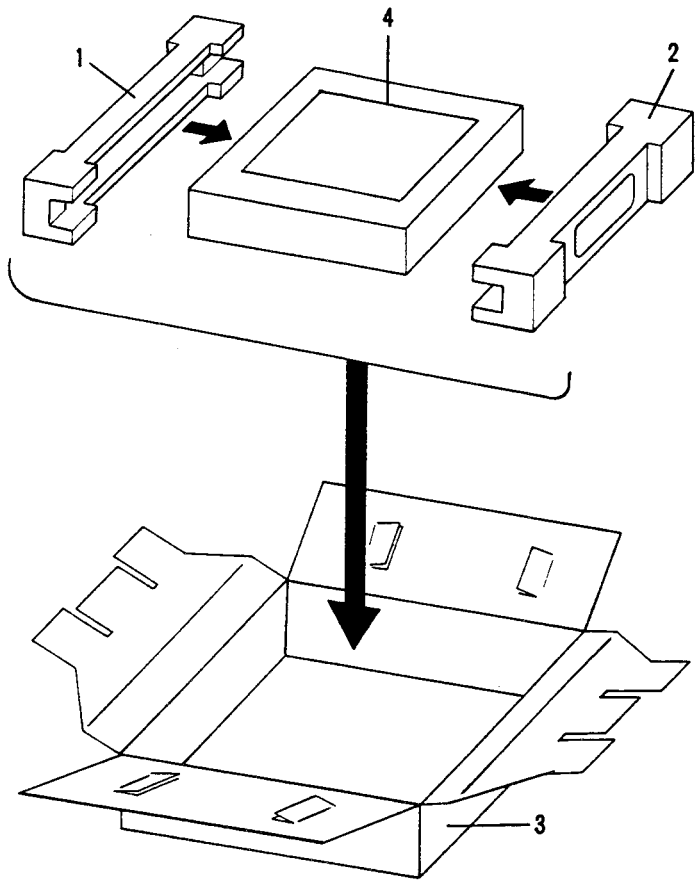
⑬ LOUDNESS switch

Use when listening at low volume levels.
[OFF] – Released position: Should normally be left in this position.
[ON] – Depressed position: Boosts low and high frequencies to give added punch to playback even at low volume.
This function does not operate when the LINE STRAIGHT switch is in the ON position.

3. BLOCK DIAGRAM



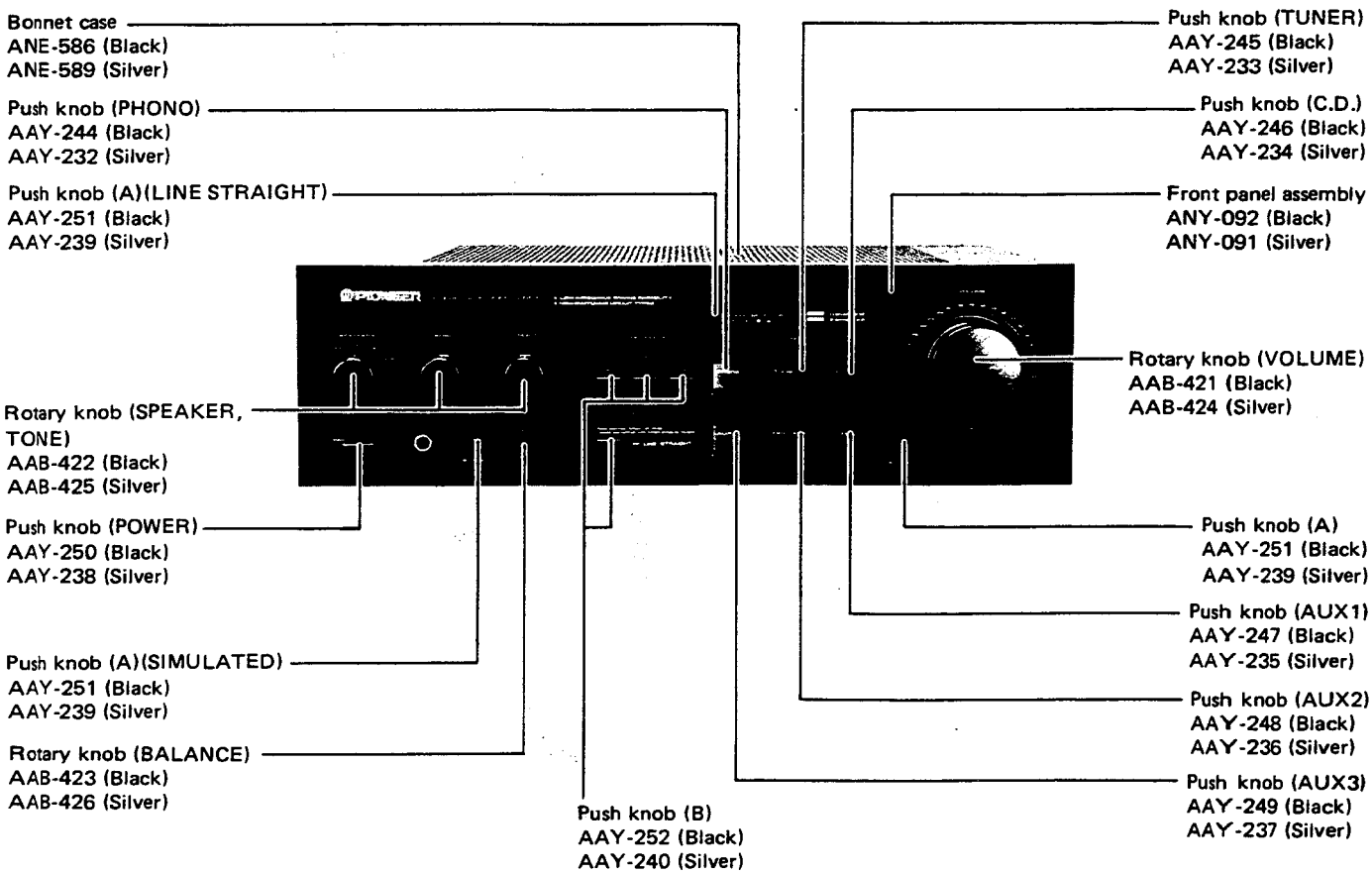
4. PACKING



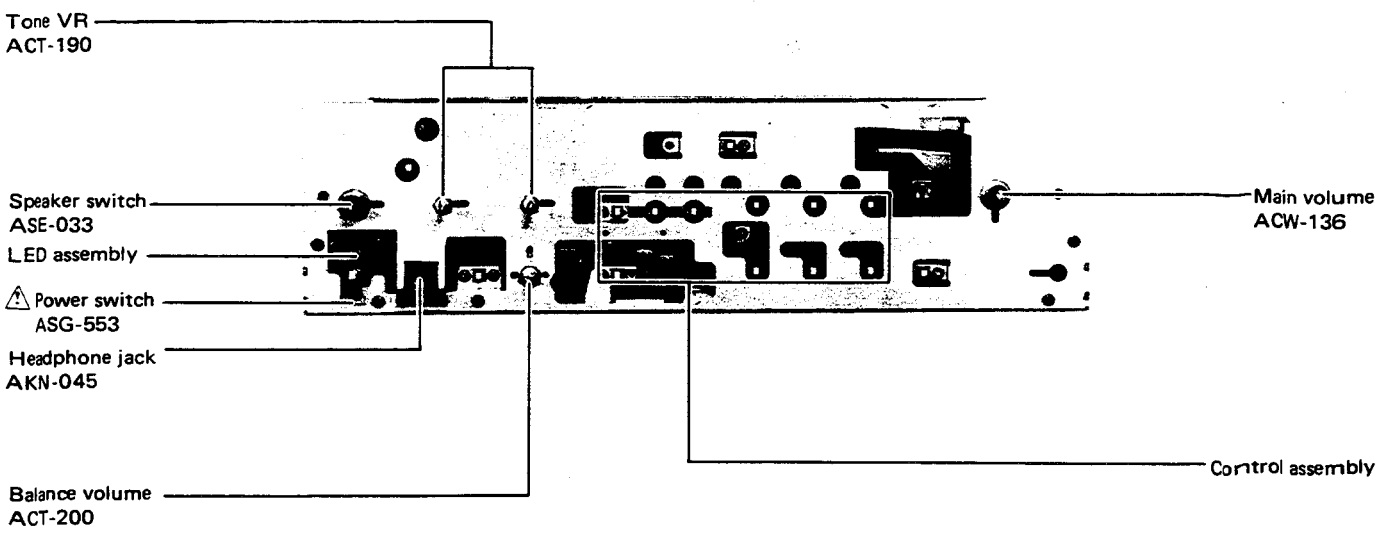
Mark	No.	Part No.	Symbol & Description
	1	AHA-402	Side pad (L)
	2	AHA-403	Side pad (R)
	3	AHE-621	Packing case (Black)
		AHE-620	Packing case (Silver)
	4	ARC-116	Operating instructions

5. PARTS LOCATION

Front Panel View

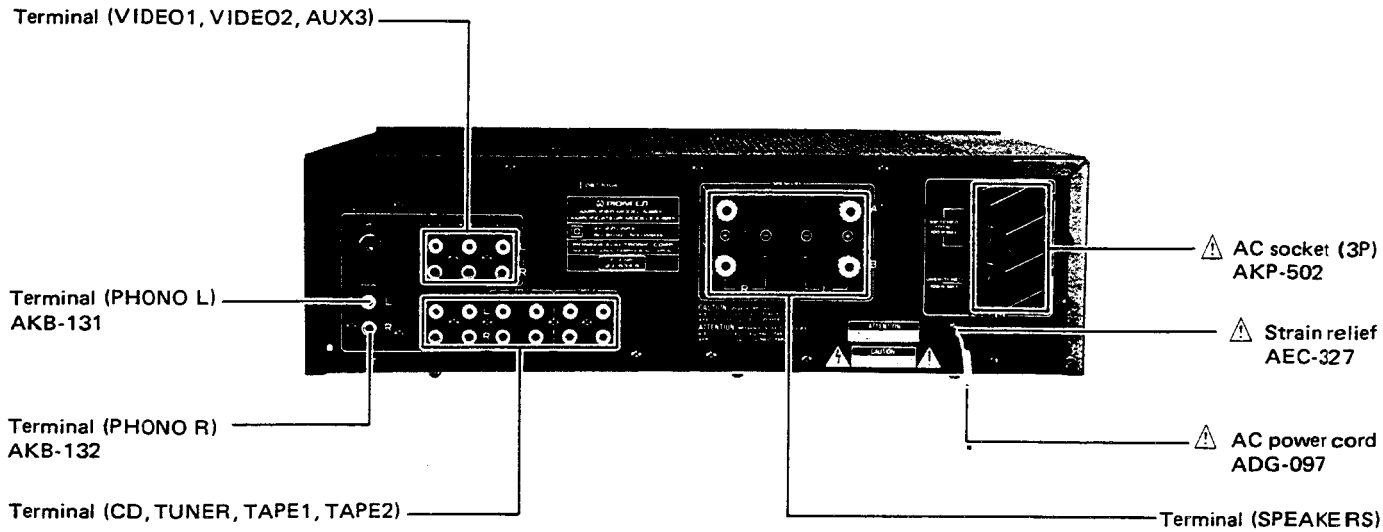


Front View with Panel Removed

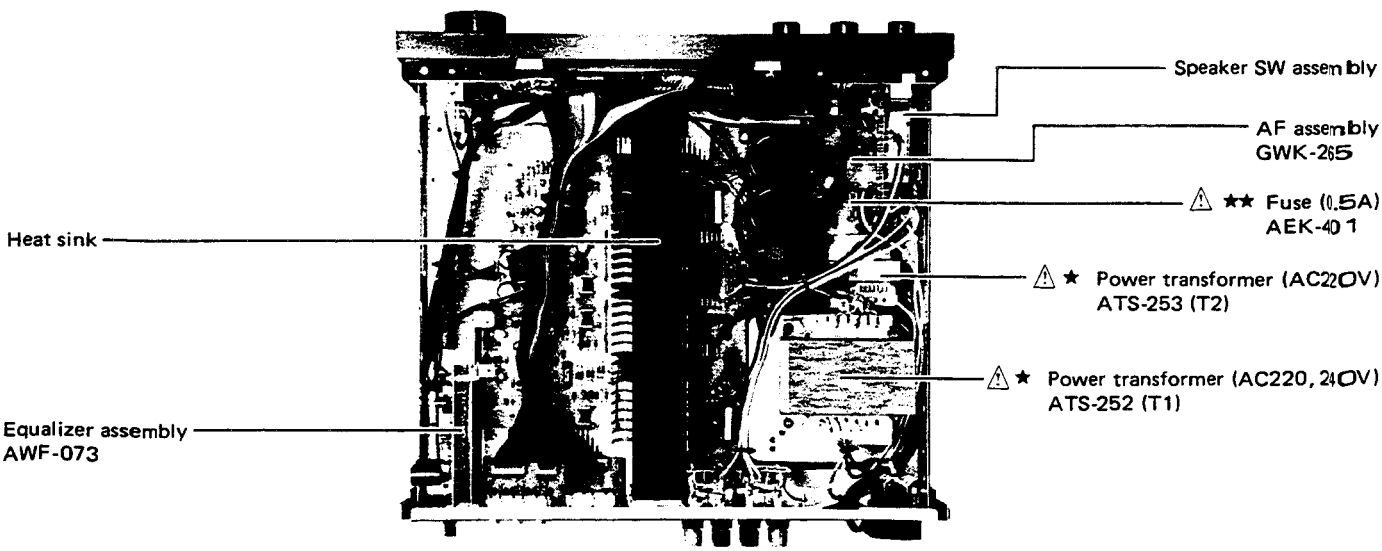


- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

Rear Panel View

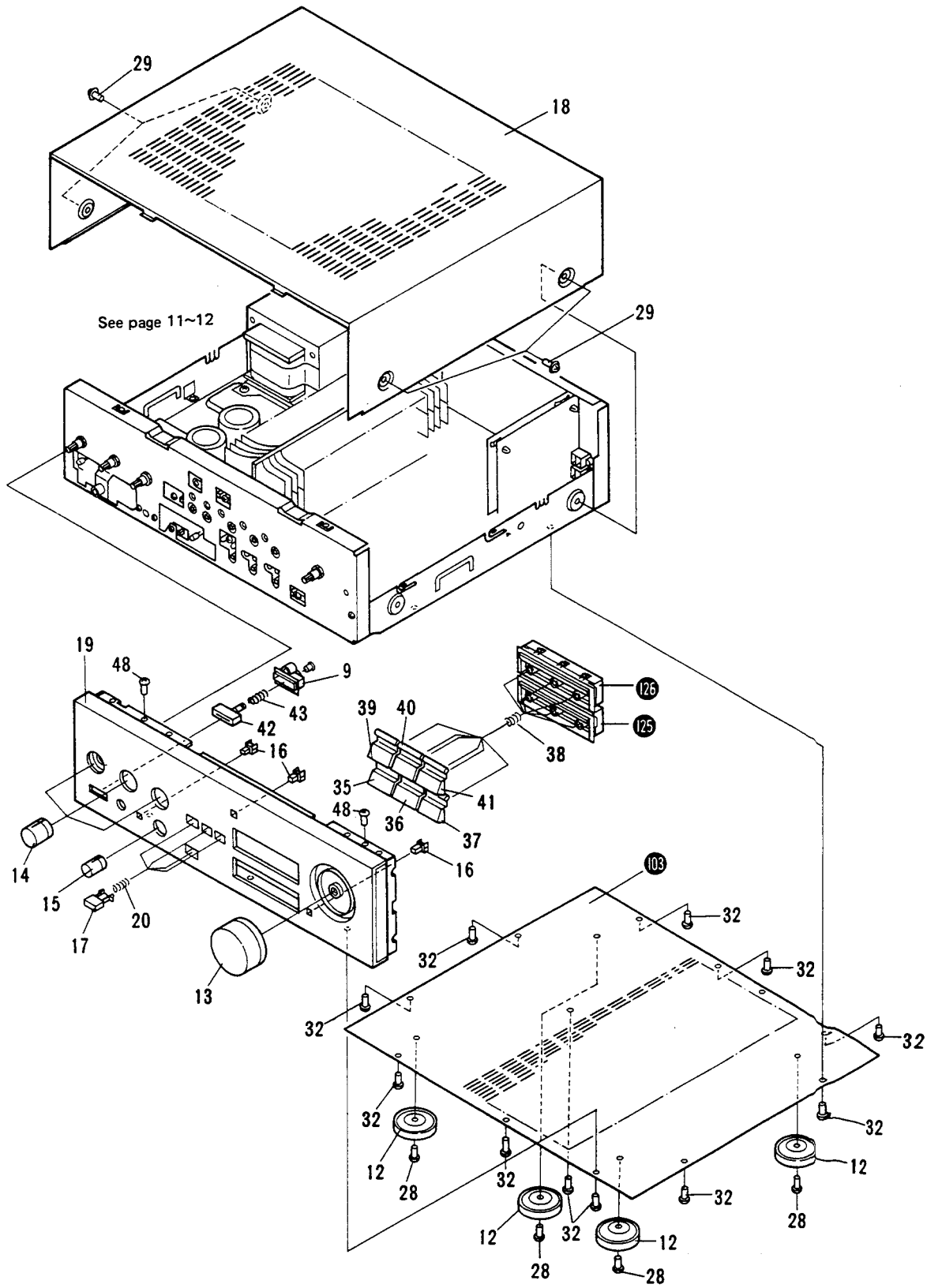


Top View



6. EXPLODED VIEW AND PARTS LIST

Exterior

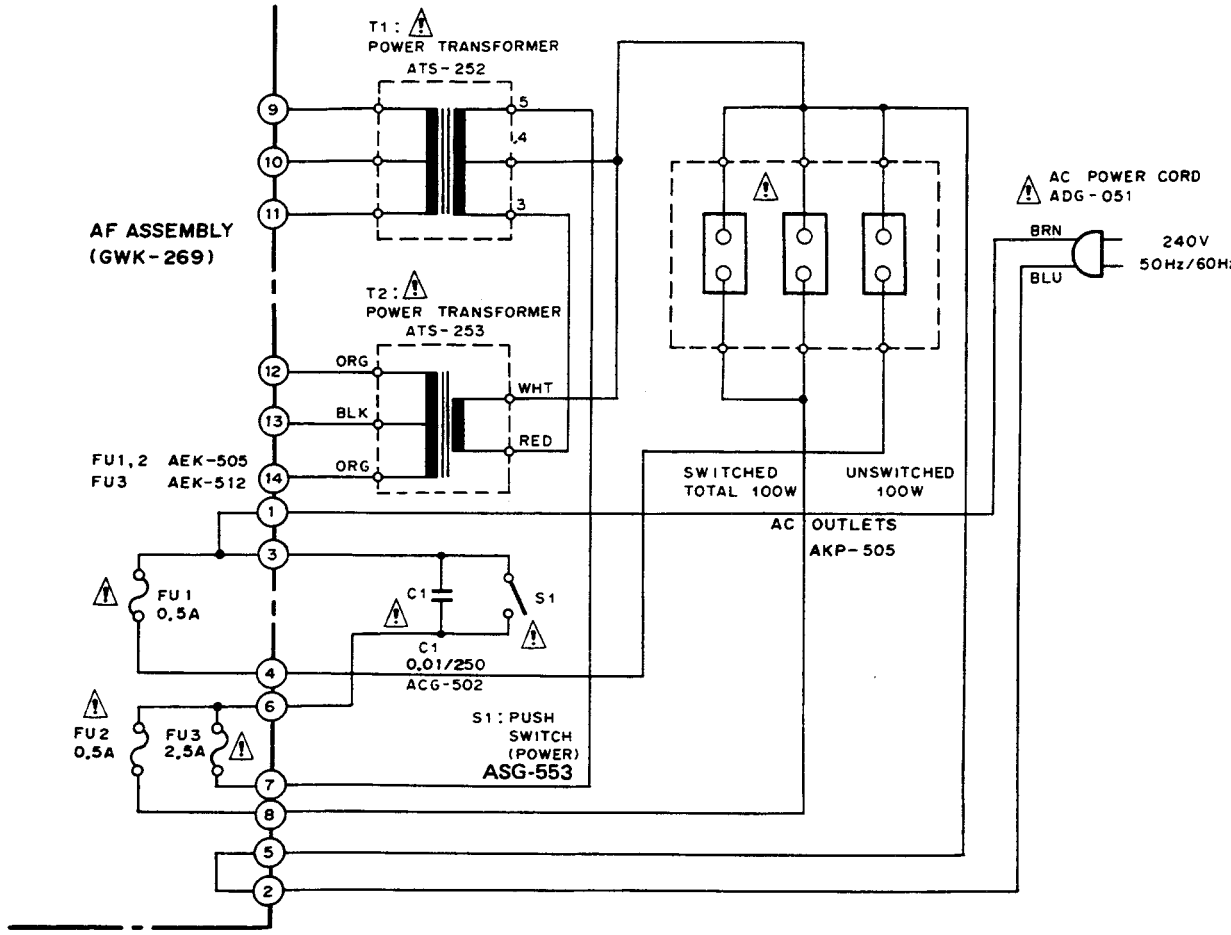


NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ *GENERALLY MOVES FASTER THAN* ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

Mark	No.	Part No.	Description
	1	AWF-073	Equalizer assembly
	2	GWS-576	Control assembly
	3	GWK-265	AF assembly
⚠ ★★	4	2SB1163P-Q (2SB1163P-S)	Q1, Q2 Power transistor*
⚠ ★★	5	2SD1718-Q (2SD1718P-S)	Q3, Q4 Power transistor*
		*hfe of Q1 – Q4 should have the same value.	
⚠ ★	6	ATS-252	Power transformer (T1) (AC220, 240V)
⚠ ★	7	ATS-253	Power transformer (T2) (AC220V)
⚠	8	AKP-502	AC socket (3P)
⚠ ★★	9	ASG-553	Push (POWER)
⚠ ★★	10	AEK-401	Fuse (0.5A)
⚠ ★★	11	AEK-403	Fuse (2.5A)
	12	AEP-251	Leg
	13	AAB-421	Rotary knob (VOLUME)(Black)
		AAB-424	Rotary knob (VOLUME)(Silver)
	14	AAB-422	Rotary knob (SPEAKERS)(Black)
		AAB-425	Rotary knob (SPEAKERS)(Silver)
	15	AAB-423	Rotary knob (BALANCE)(Black)
		AAB-426	Rotary knob (BALANCE)(Silver)
	16	AAY-251	Push knob (A)(Black)
		AAY-239	Push knob (A)(Silver)
	17	AAY-252	Push knob (B)(Black)
		AAY-240	Push knob (B)(Silver)
	18	ANE-586	Bonnet case (Black)
		ANE-589	Bonnet case (Silver)
	19	ANY-092	Front panel assembly (Black)
		ANY-091	Front panel assembly (Silver)
	20	ABH-169	Coil spring
⚠	21	AEC-327	Strain relief
⚠	22	AEP-313	Mica sheet
	23	ABA-176	Screw
	24	ABA-258	Screw
	25	ABN-028	Nut
⚠	26	ADG-097	AC power cord
	27	BBZ30P060FZK	Screw (3 x 6)
	28	BBZ30P080FZK	Screw (3 x 8)
	29	FBT40P080FZK	Screw (4 x 8)
	30	NK70FUC	Nut
	31	NK90FUC	Nut
	32	VMZ30P060FMC	Screw (3 x 6)
	33	VTZ40P080FMC	Screw (4 x 8)
	34	WA35F100N080	Washer
	35	AAY-249	Push knob (AUX3)(Black)
		AAY-237	Push knob (AUX3)(Silver)
	36	AAY-248	Push knob (AUX2)(Black)
		AAY-236	Push knob (AUX2)(Silver)
	37	AAY-247	Push knob (AUX11)(Black)
		AAY-235	Push knob (AUX11)(Silver)
	38	ABH-159	Coil spring
	39	AAY-244	Push knob (PHONO)(Black)
		AAY-232	Push knob (PHONO)(Silver)
	40	AAY-245	Push knob (TUNER)(Black)
		AAY-233	Push knob (TUNER)(Silver)
	41	AAY-246	Push knob (CD)(Black)
		AAY-234	Push knob (CD)(Silver)
	42	AAY-250	Power knob (Black)
		AAY-238	Power knob (Silver)
	43	ABH-099	Coil spring
⚠	44	ACE-506	C9 Ceramic capasitor 0.01/AC250V
⚠	45	ACG-001	C6–C8 Ceramic capasitor 0.01/250V
⚠	46	ACG-502	C1 Ceramic capasitor 0.01/AC250V
	47	ABA-283	PWB Screw
	48	BBZ30P060FMC	Screw
	101		Terminal (GND)
	102		Panel stay
	103		Bottom plate
	104		Heat sink holder
	105		Heat sink
	106		Rear panel
	107		Light frame
	108		Reft frame
	109		Power switch holder
	110		EQ P.C.B. holder
	111		Cushion spacer A
	112		Cushion spacer B
	113		P.C.B. support
	114		Mount plate
	115		Pin jack assembly (A)
	116		Headphone jack assembly
	117		Switch assembly
	118		Tone volume assembly
	119		Pin jack assembly (B)
	120		Speaker terminal assembly
	121		Balance volume assembly
	122		Speaker SW assembly
	123		LED assembly
	124		Main volume assembly
	125		Push knob assembly (B)(Black)
			Push knob assembly (B)(Silver)
	126		Push knob assembly (A)(Black)
			Push knob assembly (A)(Silver)
	127		Power knob assembly (Black)
			Power knob assembly (Silver)

Schematic Diagram for HB Type



Line Voltage Selection

Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the bonnet case.
3. Change the connection of the lead from AF assembly terminal No. 7 to T1 as follows:

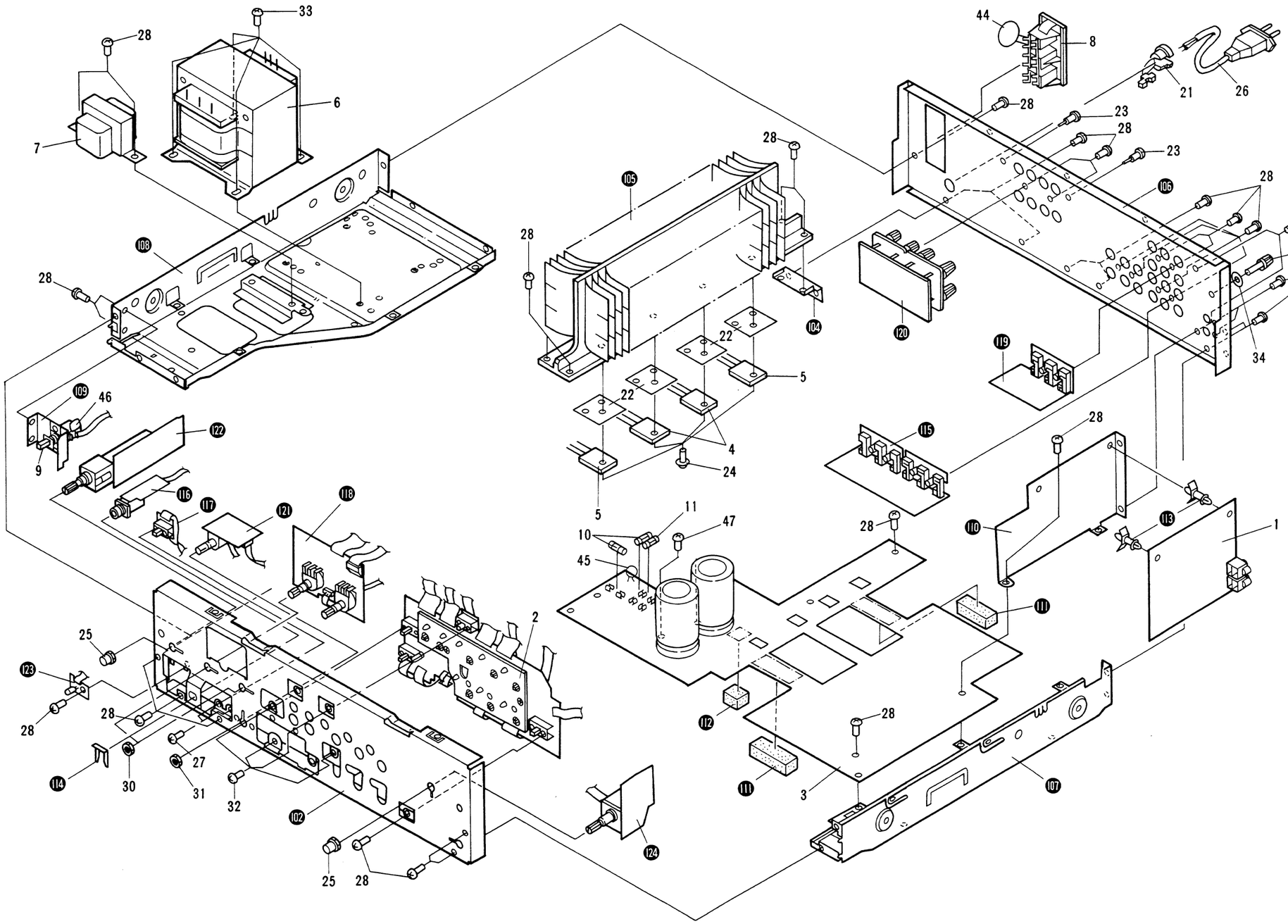
Voltage	AF assembly Terminal No.	Power Transformer (T1) Terminal No.
240V	7	5
220V	7	3

4. Stick the line voltage level on the rear panel.

Part No.	Description
AAX-193	220V level
AAX-192	240V level

NOTE:
Do not disconnect the lead (RED) from T2 to the T1 power transformer terminal No. 3.

Interior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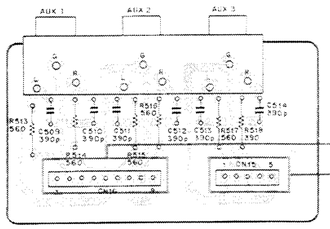
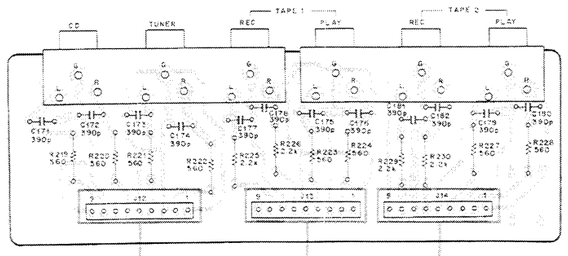
7. P.C. BOARDS CONNECTION DIAGRAM

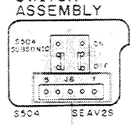
PINJACK ASSEMBLY (B)



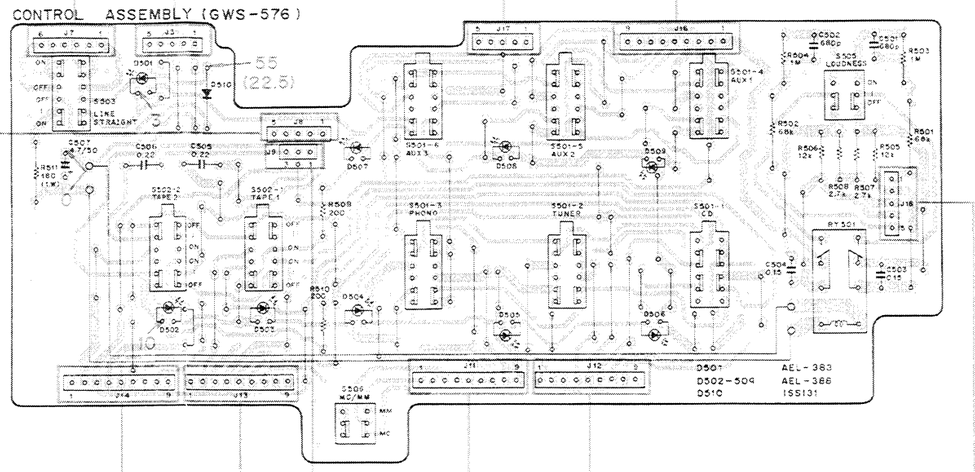
PINJACK ASSEMBLY (A)



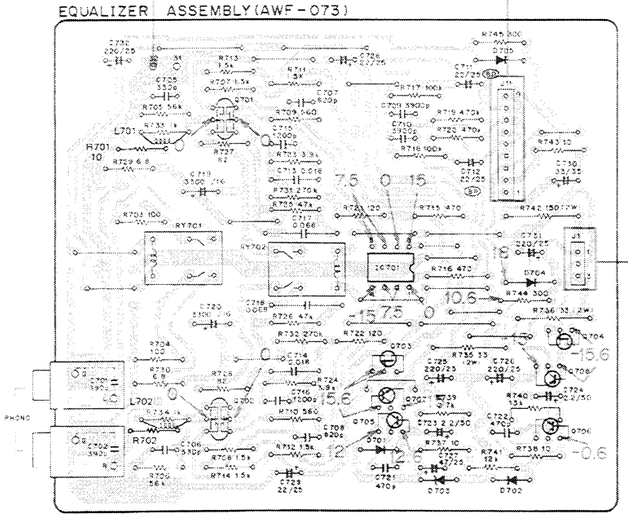
SWITCH ASSEMBLY



CONTROL ASSEMBLY (GWS-576)

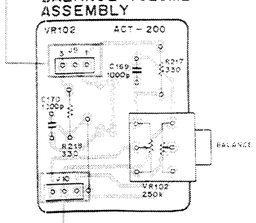


EQUALIZER ASSEMBLY(AWF-073)

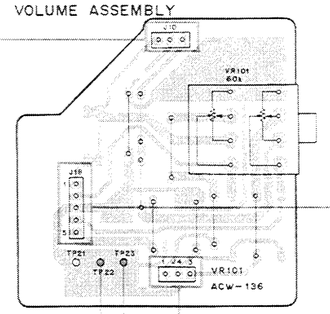


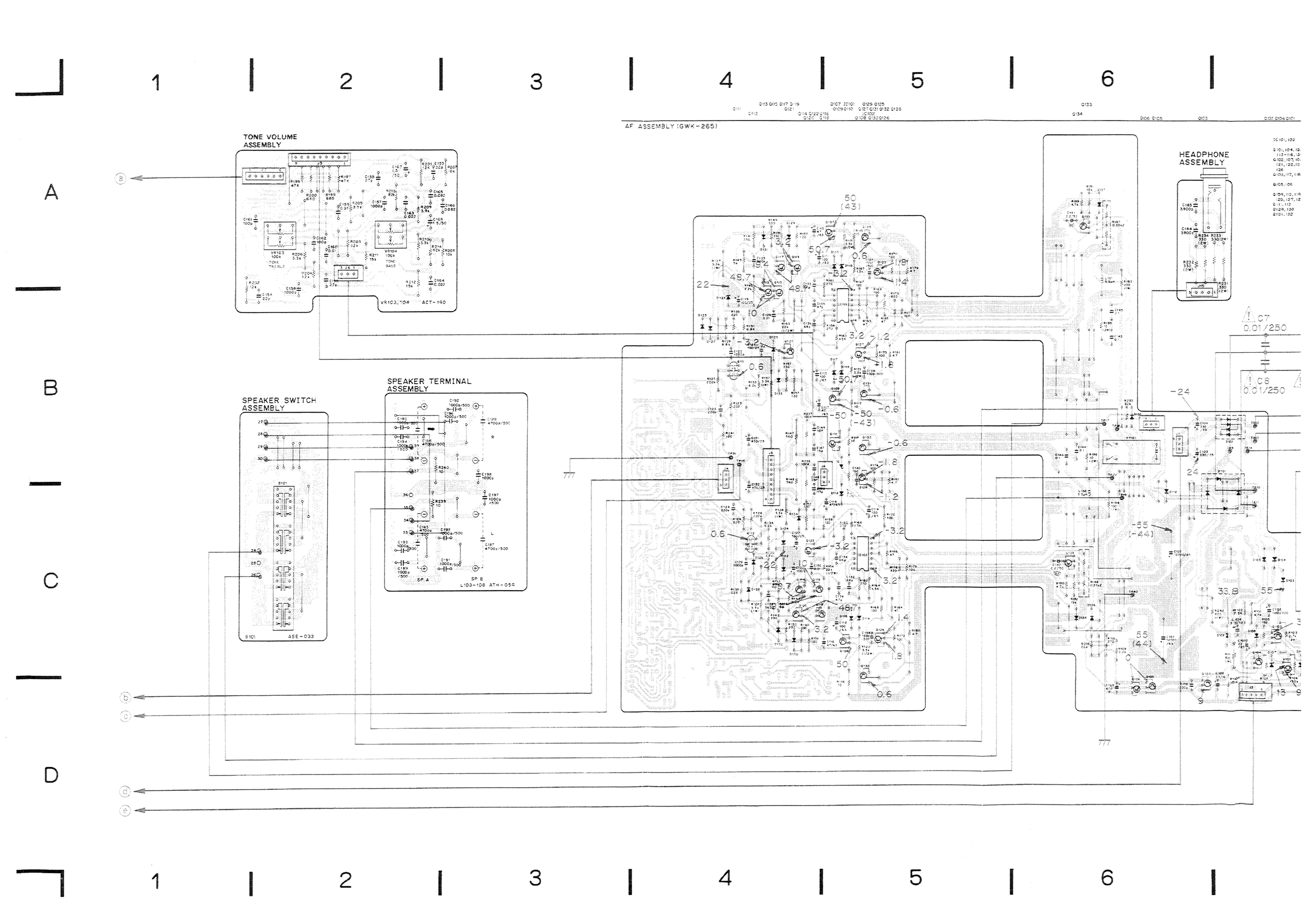
IC701	M5210P
Q701,702	2SK1294
Q703,704	2SK375
Q705	2SC2240 (2SC1845)
Q706	2SA970 (2SA992)
Q707	2SD438
Q708	2SB560
D701,702	ISS131 (US1035)
D703	HZ12EB (KD12EB)
D704,705	11E2

BALANCE VOLUME ASSEMBLY



VOLUME ASSEMBLY




AF ASSEMBLY (GWK-265)
TONE VOLUME ASSEMBLY
VR103,104 ACT-1G0
SPEAKER SWITCH ASSEMBLY
S101 ASE-033
SPEAKER TERMINAL ASSEMBLY
SP A
SP B
L103-108 ATH-059
HEADPHONE ASSEMBLY
50 (43)
-50 (-43)
55 (44)
-55 (-44)
C7 0.01/250
C8 0.01/250
IC101,102
Q101,104,113-116,123
Q102,107,108,121,122,125,126
Q103,117,118
Q105,106
Q109,110,119,120,127,129
Q111,112
Q124,130
Q131,132
A
B
C
D
1
2
3
4
5
6

AF ASSEMBLY (GWK-265)

IC101,102	PA0016	D101	RB602
		D102	SW820
Q104,104,103, 113-116,134	2SC2240 (2SC2388)	D103-105	1E2
Q102,107,108, 121,122,125, 126	2SC2700	D106	KZL130
		D107	KZL061
		D108	HZ3.9EB (RD3.9EB)
Q103,117,118	2SA970 (2SA992)	Q109,110, 125-136	1SS131 (US1035)
Q105,106	2SC2458 (2SC1740S)	D113-120	HZ7EB (RD7EB)
Q108,110,115, 120,127,128	2SA1145	D121-124	HZ22EB (RD22EB)
Q111,112	2SK129A	Q1,2	2SB1153
Q124,130	2SC2235	Q3,4	2SD1718
Q131,132	2SA968		

HEADPHONE ASSEMBLY

C7 0.01/250

C8 0.01/250

C6 0.01/250

T1 ATS-252 POWER TRANSFORMER

T2 ATS-253 POWER TRANSFORMER

ORG
BLK
ORG
WHT
RED

C9 0.01/250

AC OUTLETS AKP-502

SWITCHED TOTAL 100W

UNSWITCHED 100W

BLU
BRN

AC POWER CORD ADG-097

220V 50Hz/60Hz

POWER

S1: PUSH SWITCH ASG-553

C1 0.01/250 ACG-502

LED ASSEMBLY

D112 AEL-383

50 (43)

-24

24

-55 (-44)

55 (44)

33.8

55

3.9

13

9

0

777

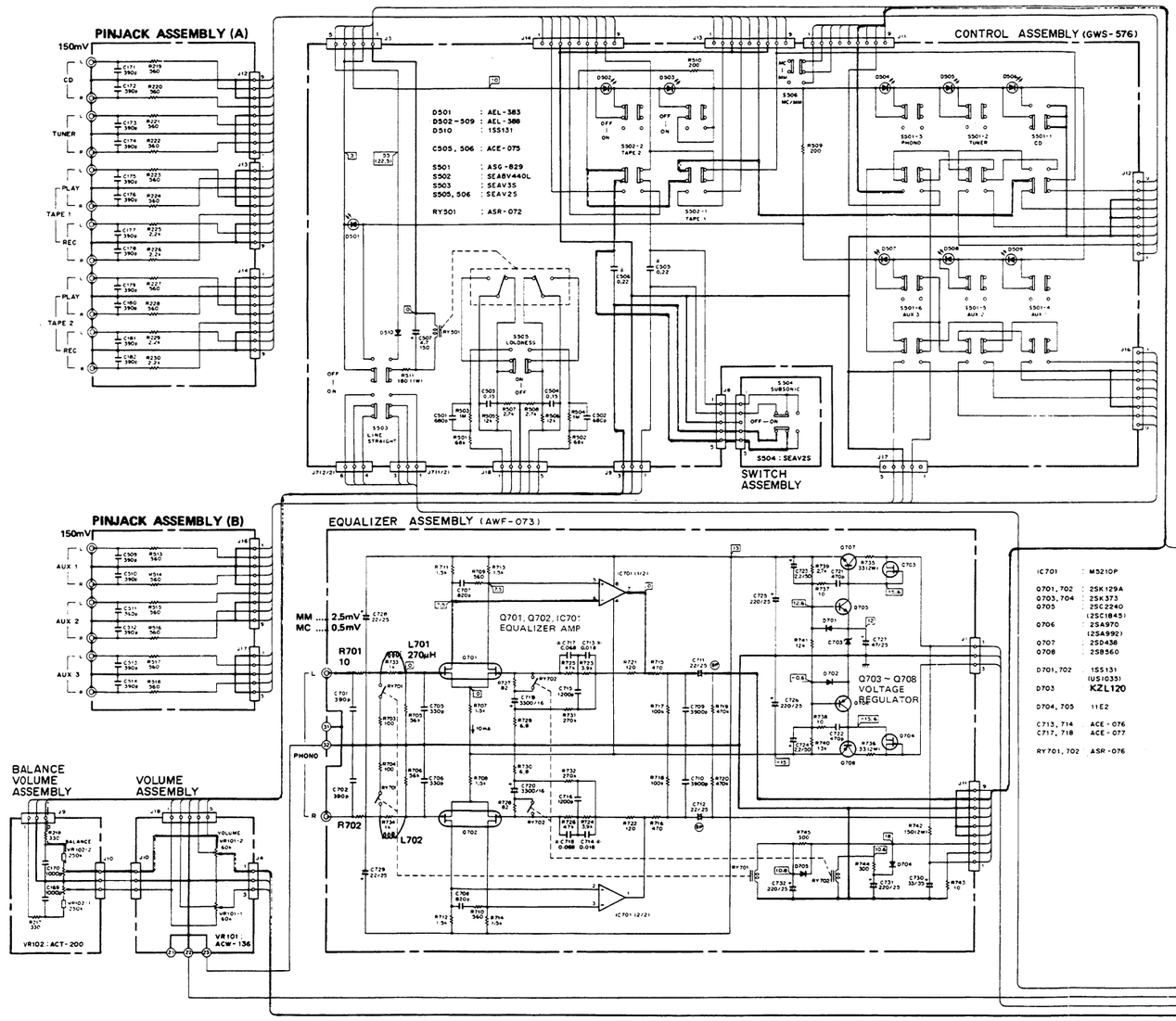
A

B

C

D

8. SCHEMATIC DIAGRAM



4 5 6 7 8 9

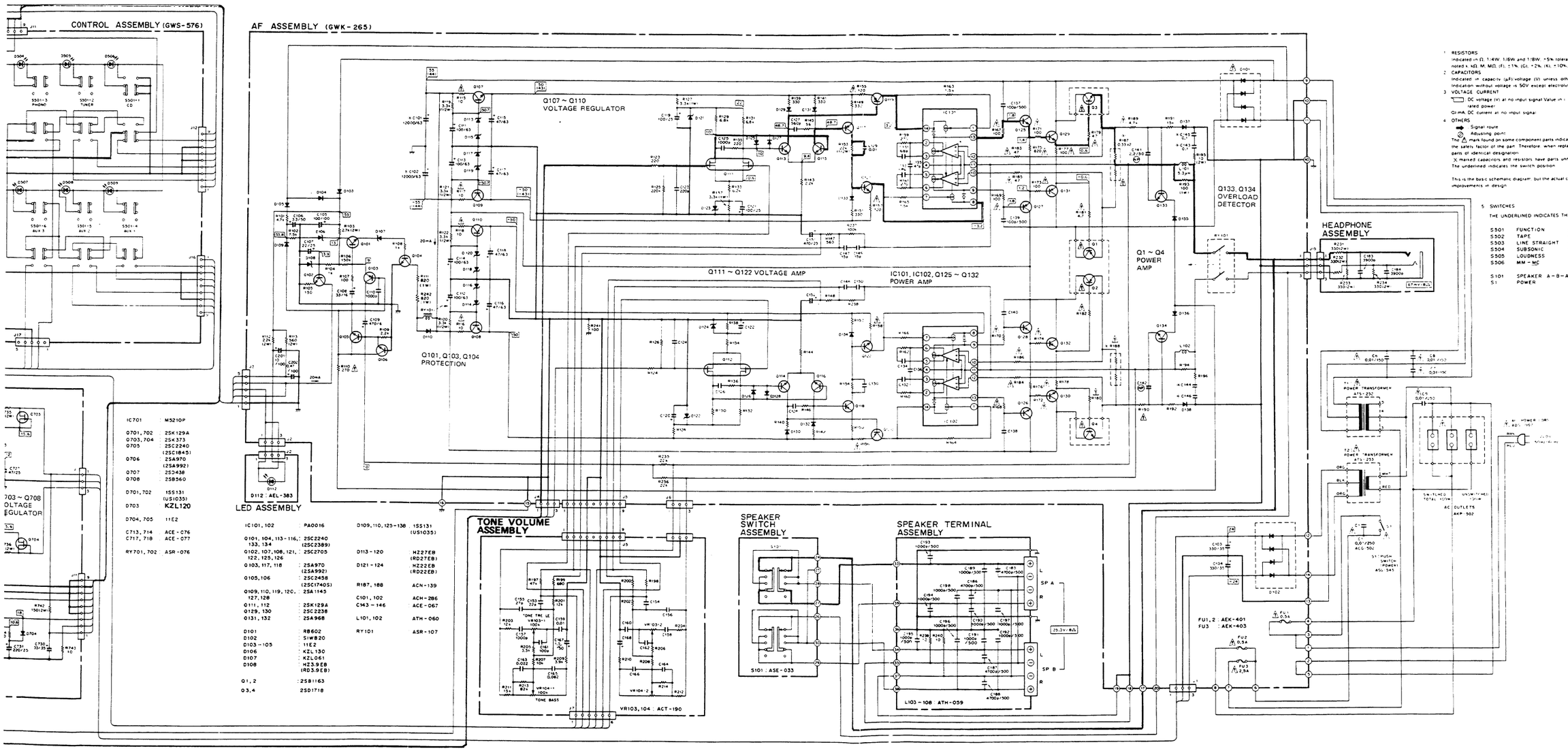
A

B

C

D

NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.



1 RESISTORS
Indicated in Ω, 1/4W, 1/8W and 1/8W, ±5% tolerance unless otherwise noted k: kΩ, M: MΩ, (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% tolerance

2 CAPACITORS
Indicated in capacity (μF) voltage (V) unless otherwise noted p: pF
Indicators without voltage is 50V except electrolytic capacitor

3 VOLTAGE/CURRENT
DC voltage (V) at no input signal Value in ( ) is DC voltage at rated power
mA: DC current at no input signal

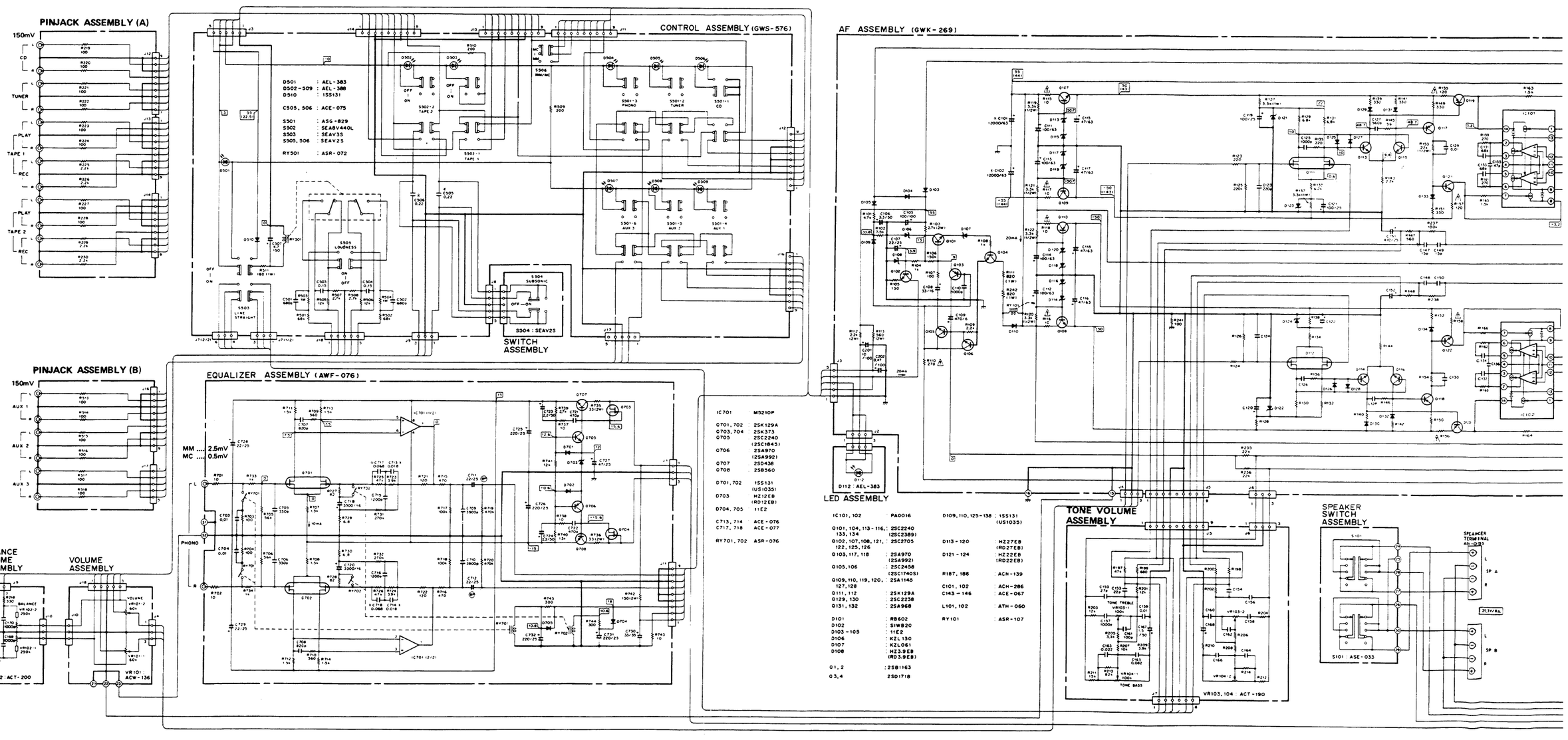
4 OTHERS
Signal route
Adjusting point
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
X: marked capacitors and resistors have parts unmbers.
The underlined indicates the switch position

This is the basic schematic diagram but the actual circuit may vary due to improvements in design

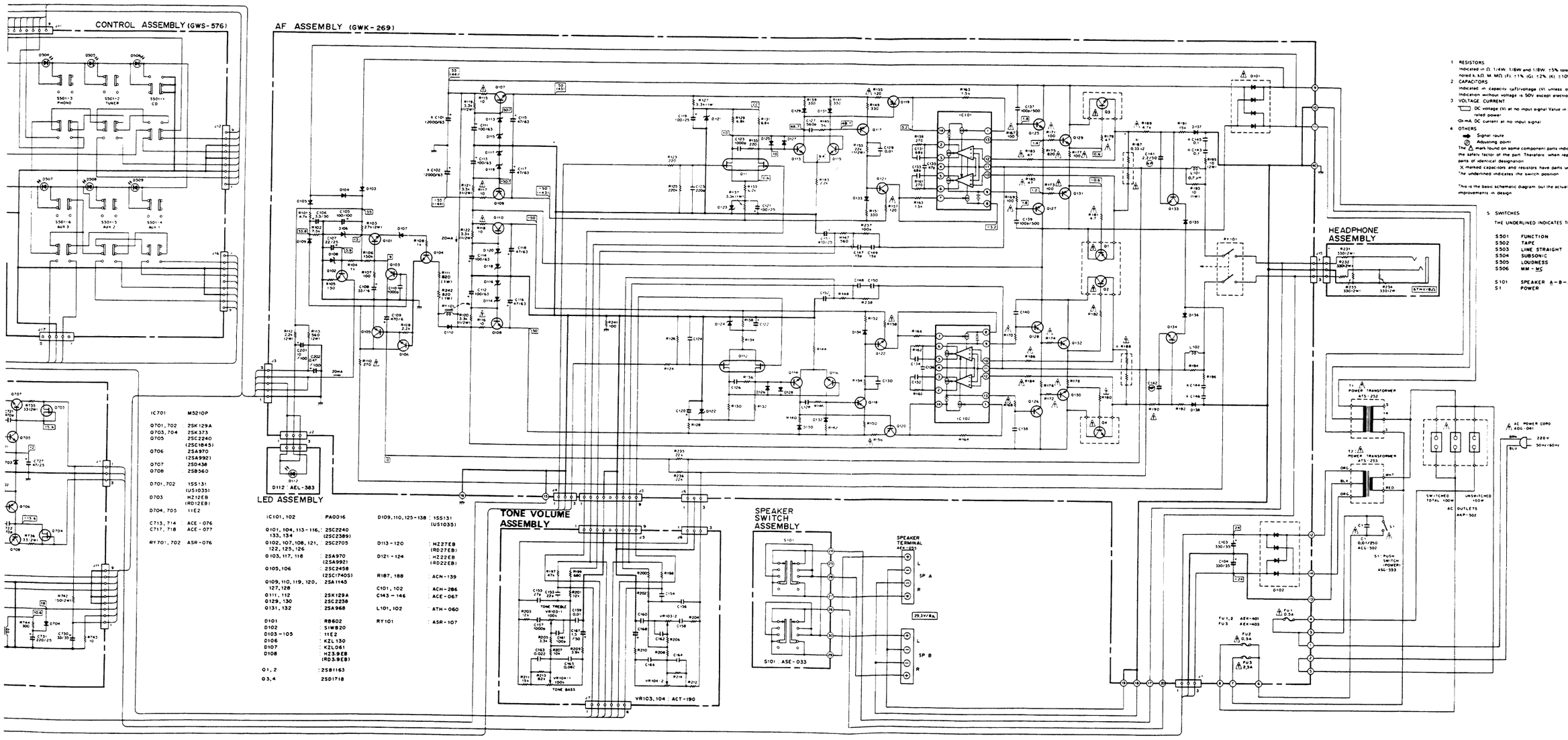
5 SWITCHES
THE UNDERLINED INDICATES THE SWITCH POSITION

S501	FUNCTION	CD
S502	TAPE	ON – OFF
S503	LINE STRAIGHT	ON – OFF
S504	SUBSONIC	ON – OFF
S505	LOUDNESS	ON – OFF
S506	MM – MC	
S101	SPEAKER	A–B–A+B – OFF
S1	POWER	ON – OFF

Schematic Diagram for HE Type



NOTE:
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.



1 RESISTORS
Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k, kΩ, M, MΩ. (F) : ±1% (G) : ±2% (K) : ±10% (M) : ±20% tolerance

2 CAPACITORS
Indicated in capacity (pF)/voltage (V) unless otherwise noted. p pF
Indication without voltage is 50V except electrolytic capacitor.

3 VOLTAGE CURRENT
DC voltage (V) at no input signal. Value in ( ) is DC voltage at rated power.
mA DC current at no input signal.

4 OTHERS
Signal route
Adjusting point
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
X marked capacitors and resistors have parts numbers.
The underlined indicates the switch position.

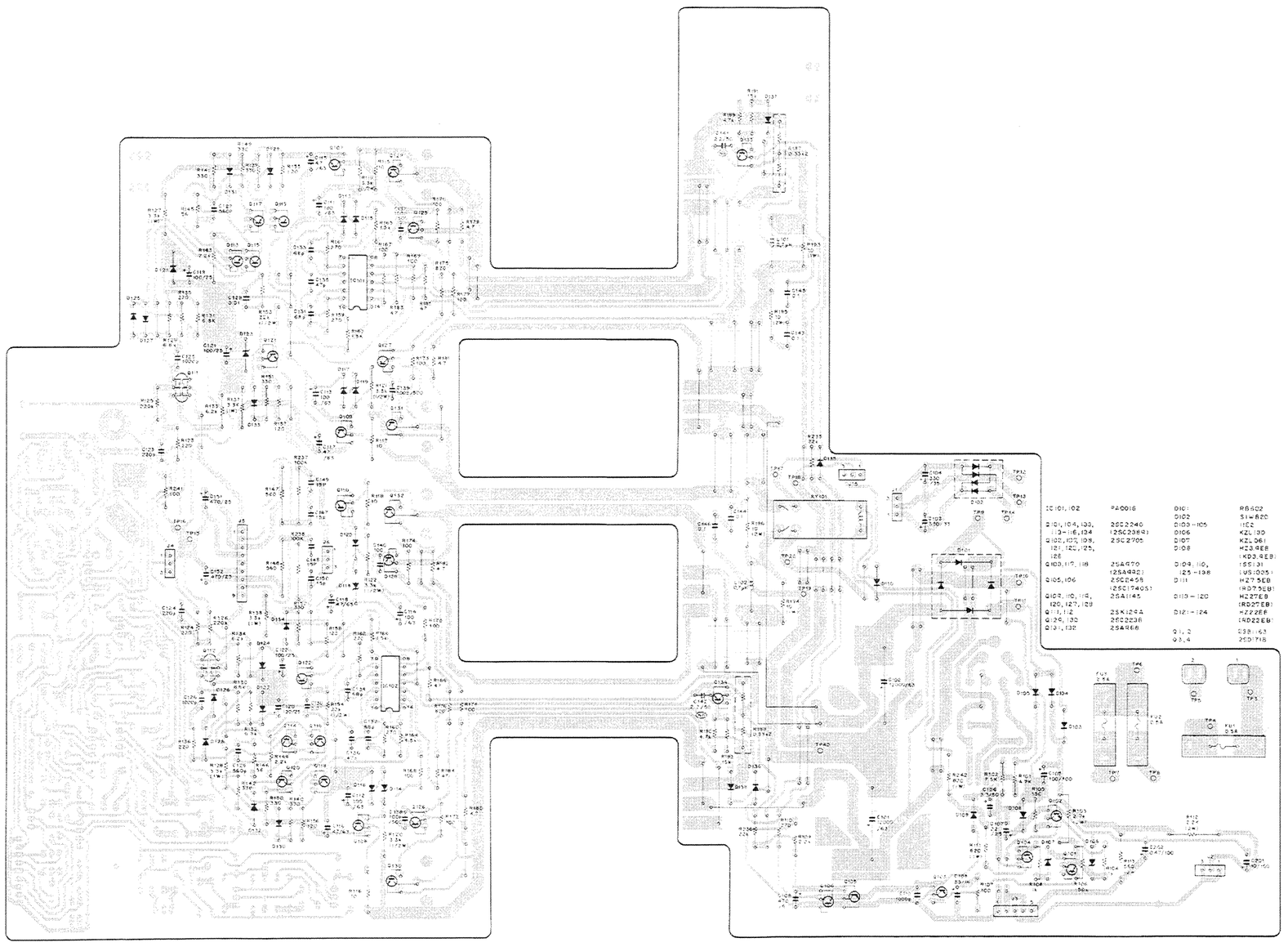
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5 SWITCHES
THE UNDERLINED INDICATES THE SWITCH POSITION

S501	FUNCTION	CD
S502	TAPE	ON – OFF
S503	LINE STRAIGHT	ON – OFF
S504	SUBSONIC	ON – OFF
S505	LOUDNESS	ON – OFF
S506	MM – MC	
S101	SPEAKER	A–B–A+B – OFF
S1	POWER	ON – OFF

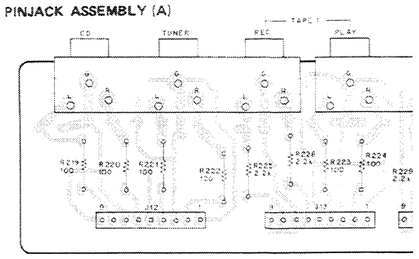
P.C. Board Patterns for HE, HB Types

AF ASSEMBLY (GWK-269)

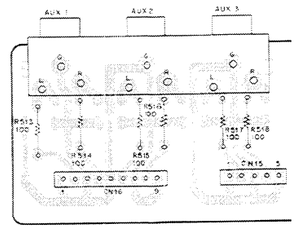


IC101, 102	PA0016	D101	RB602
Q101, 104, 133, 113~116, 134	2SC2240 (2SC2383)	D102	S1WB20
Q102, 103, 109, 121, 122, 125, 126	2SC2705	D103~105	HZ6
Q106, 110, 118	2SA970 (2SA933)	D106	KZL13D
Q105, 106	2SC2458 (2SC1740S)	D107	KZL06I
Q107, 110, 115, 120, 127, 128	2SA1145	D108	HZ3.9EB (KD3.9EB)
Q111, 112	2SK124A	D109, 110, 125~136	1SS131 (1US1005)
Q129, 132	2SC2236	D111	HZ7.5EB (RD7.5EB)
Q131, 132	2SA966	D113~120	HZ7.5EB (RD7.5EB)
		D121~124	HZ22EB (RD22EB)
		Q1, 2	D38~63
		Q3, 4	2SD715

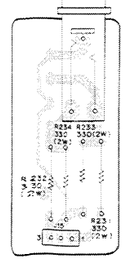
PINJACK ASSEMBLY (A)

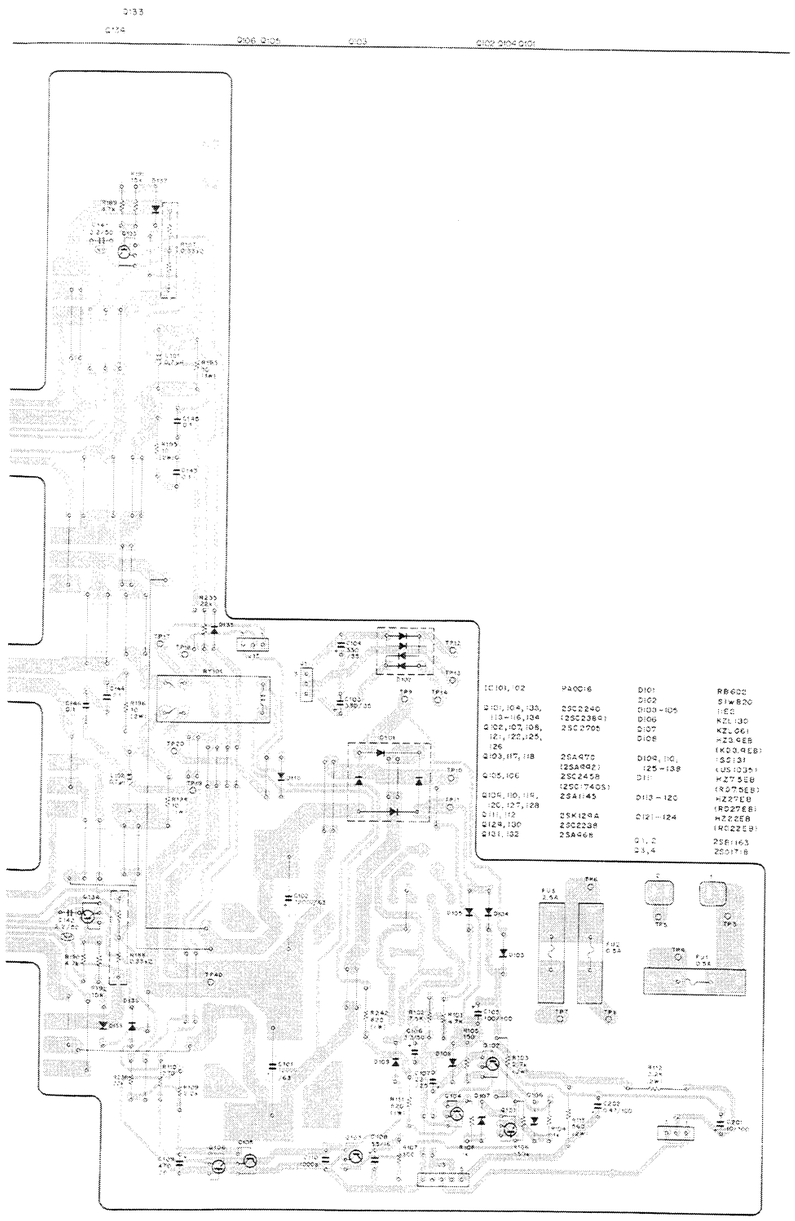


PINJACK ASSEMBLY (B)

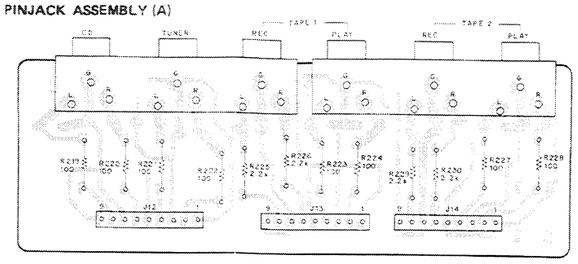


HEADPHONE ASSEMBLY

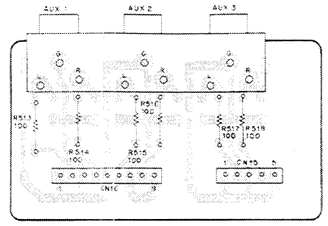




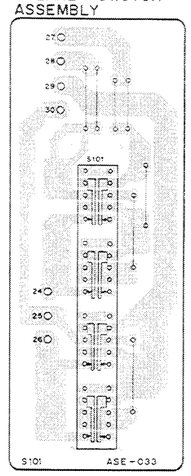
PINJACK ASSEMBLY (A)



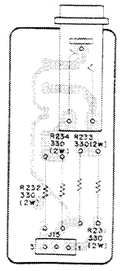
PINJACK ASSEMBLY (B)



SPEAKER SWITCH ASSEMBLY

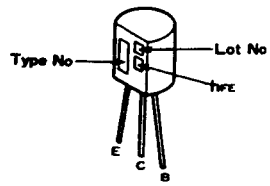


HEADPHONE ASSEMBLY

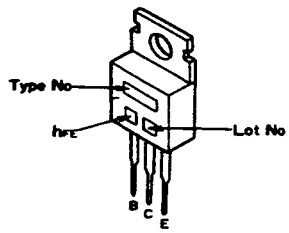


External Appearance of Transistors and ICs

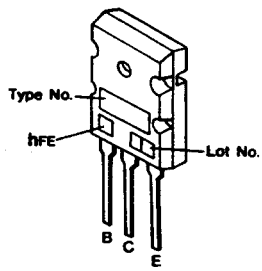
2SA970
2SC2240



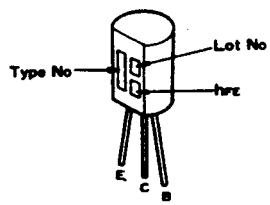
2SA968
2SC2238



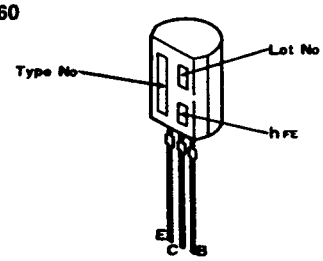
2SB1163P
2SD1718P



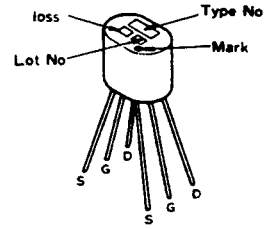
2SA1145
2SC2705



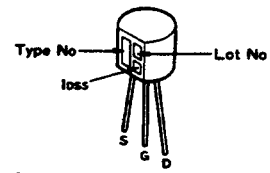
2SB560



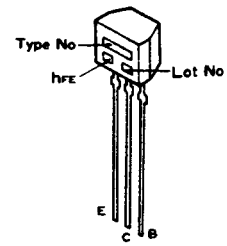
2SK129A



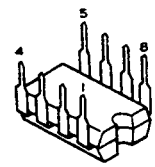
2SK373



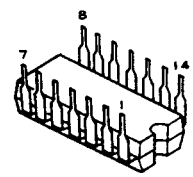
2SC2458



M5210P



PA0016



Line Voltage Selection

Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the bonnet case.
3. Change the connection of the lead from AF assembly terminal No. 7 to T1 as follows:

Voltage	AF assembly Terminal No.	Power transformer (T1) Terminal No.
220V	7	3
240V	7	5

4. Stick the line voltage level on the rear panel.

Part No.	Description
AAX-193	220V level
AAX-192	240V level

NOTE:
Do not disconnect the lead (RED) from T2 to the T1 power transformer terminal No. 3.

9. ELECTRICAL PARTS LIST

NOTES:

- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	*56 x 10¹*	*561*	*RD¼PS 5 6 1 J*
47kΩ	*47 x 10³*	*473*	*RD¼PS 4 7 3 J*
0.5Ω	*0R5*		*RN2H 0 R 5 K*
1Ω	*010*		*RS1P 0 1 0 K*

  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	*562 x 10¹*	*5621*	*RN¼SR 5 6 2 1 F*

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*

  ★★ GENERALLY MOVES FASTER THAN ★.

  This classification shall be adjusted by each distributor because it depends on model number , temperature, humidity, etc.

Miscellaneous Parts

P.C. BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	Equalizer assembly	AWF-073
	Control assembly	GWS-576
	Switch assembly	non supply
	Pin jack assembly (A)	non supply
	AF Assembly	GWK-265
	Tone volume assembly	non supply
	Speaker switch assembly	non supply
	Pin jack assembly (B)	non supply
	Headphone assembly	non supply
	Volume assembly	non supply
	LED Assembly	non supply
	Balance volume assembly	non supply
	Speaker terminal assembly	non supply

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
⚠★★	Q1, Q2	2SB1163P-Q* (2SB1163P-S)
⚠★★	Q3, Q4	2SD1718P-Q* (2SD1718P-S)

* hfe of Q1 — Q4 should have the same value.

CAPACITORS

Mark	Symbol & Description		Part No.
⚠	C9	(0.01/AC250V)	ACE-506
⚠	C6, C7, C8	(0.01/AC250V)	ACG-001
⚠	C1	(0.01/AC250V)	ACG-502

OTHERS

Mark	Symbol & Description		Part No.
⚠★★	T1	Power transformer (AC220V, 240V)	ATS-252
⚠★★	T2	Power transformer (AC220V)	ATS-253
⚠★★	AC Socket 3P (AC OUTLETS)		AKP-502
⚠	S1	Push switch (POWER)	ASG-553
⚠★★	FU1, FU2	Fuse (0.5A)	AEK-401
⚠★★	FU3	Fuse (2.5A)	AEK-403
⚠	AC Power cord		ADG-097

Equalizer Assembly (AWF-073-A)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★	D703	KZL120
★★	IC701	M5210P
★	D701, D702	1SS131
★	D704, D705	11E2
★★	Q706	2SA970
★★	Q708	2SB560
★★	Q705	2SC2240
★★	Q707	2SD438
★★	Q701, Q702	2SK129A
★★	Q703, Q704	2SK373

RELAY

Mark	Symbol & Description	Part No.
★★	RY701, RY702	ASR-076

COIL

Mark	Symbol & Description	Part No.
	L701, L702	ATH-132

CAPACITORS

Mark	Symbol & Description	Part No.
	C713, C714 (0.018μF)	ACE-076

Mark	Symbol & Description	Part No.
	C717, C718 (0.068μF)	ACE-077
	C723, C724	CEAS2R2M50
	C728, C729	CEAS220M25
	C725, C726, C731, C732	CEAS221M25
	C730	CEAS330M35
	C727	CEAS470M25
	C711, C712	CEXANP220M25
	C719, C720	CEYA332M16
	C705, C706	CKCYB331K50
	C721, C722	CKCYB471K50
	C707, C708	CKCYB821K50
	C701, C702	CKDYB391K50
	C715, C716	CQMA122J50
	C709, C710	CQMA392J50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	R723 – R726	RDR1/4PM□□□□F
	R727 – R730	RDR1/4PM □□□J
	R701 – R722, R731 – R734, R737 – R741, R743 – R745	RD1/4PM □□□J
	R742	RS2LMF151J
	R735, R736	RS2LMF330J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (PHONO L)	AKB-131
	Terminal (PHONO R)	AKB-132

Control Assembly (GWS-576)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★	D501 (LINE STRAIGHT)	AEL-383
★	D502 – D509 (TAPE2, TAPE1, PHONO TUNER, CD, AUX3, AUX2, AUX1)	AEL-388
★	D510	1SS131

SWITCHES, RELAY

Mark	Symbol & Description	Part No.
★★	S501 (FUNCTION)	ASG-829
★★	RY501	ASR-072
★★	S505, S506 (LOUDNESS, MM-MC)	SEAV2S
★★	S503 (LINE STRAIGHT)	SEAV3S
★★	S502 (TAPE)	SEA8V440L

CAPACITORS

Mark	Symbol & Description	Part No.
	C505, C506 (0.22μ)	ACE-075
	C507	CEAS4R7M50
	C501, C502	CKDYB681K50
	C503, C504	CQMA154K50

RESISTORS

Note: When ordering resistors, convert the resistance va into code form, and then rewrite the part no. as befo

Mark	Symbol & Description	Part No.
	R501 – R510	RD1/4PM □□□J
	R511	RSILMF181J

OTHERS

Mark	Symbol & Description	Part No.
	Screw	PMZ30P060FZK

Switch Assembly

SWITCH

Mark	Symbol & Description	Part No.
	S504 (SUBSONIC)	SEAV2S

Pin Jack Assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C509 – C514	CKDYB391K50

RESISTORS

Mark	Symbol & Description	Part No.
	R513 – R518	RD1/4PM561J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (VIDEO1, VIDEO2, AUX3)	AKB-117

Tone Volume Assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C161, C162	CCCSL101J50
	C153, C154	CCCSL220J50
	C155, C156	CCCSL270J50
	C167, C168	CEAS1R5M50
	C157, C158	CQMA102J50
	C159, C160	CQMA103J50
	C163, C164	CQMA223J50
	C165, C166	CQMA823J50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
★	VR103, VR104 (TONE BASS, TREBLE)	ACT-190
	R197 – R214	RD1/4PM □□□J

AF Assembly (GWK-265)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★	D121 – D124	HZ22EB
★	D113 – D120	HZ27EB
★	D108	HZ3.9EB
★	D107	KZL061
★	D106	KZL130
★★	IC101, IC102	PA0016
⚠ ★	D101	RB602
★	D102	SIWB20
★	D109, D110, D125 – D138	1SS131
★	D103 – D105	11E2
★★	Q109, Q110, Q119, Q120, Q127, Q128	2SA1145
★★	Q131A, Q132A	2SA968
★★	Q103, Q117, Q118	2SA970
★★	Q129A, Q130A	2SC2238
★★	Q101, Q104, Q113 – Q116, Q133, Q134	2SC2240
★★	Q105, Q106	2SC2458
★★	Q102, Q107, Q108, Q121, Q122, Q125, Q126	2SC2705
	Q111, Q112	2SK129A

RELAY

Mark	Symbol & Description	Part No.
★★	RY101	ASR-107

COIL

Mark	Symbol & Description	Part No.
	L101, L102 (5.3μH)	ATH-060

CAPACITORS

Mark	Symbol & Description	Part No.
	C143 – C146 (0.1μ/150V)	ACE-067
	C101, C102 (12000/63V)	ACH-286
	C137 – C140	CCCSL101K500
	C135, C136	CCCSL470J50
	C131 – C134	CCCSL680J50
	C141, C142	CEANP2R2M50
	C202	CEASR47M100
	C201	CEAS100M100
	C105	CEAS101M100
	C119 – C122	CEAS101M25
	C111 – C114	CEAS101M63
	C107	CEAS220M25
	C106	CEAS3R3M50
	C108	CEAS330M16
	C103, C104	CEAS331M35
	C115 – C118	CEAS470M63
	C109	CEAS471M6
	C151, C152	CEYA471M25
	C110, C125, C126	CKCYB102K50
	C127, C128	CKCYB561K50
	C147 – C150	CMA150J500
	C129, C130	CQMA103K50
	C123, C124	CQSXA221J160

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	R187, R188	ACN-139
	R147, R148, R237, R238	RDH1/4P □□□J
	R119 – R122, R153, R154	RD1/2PM □□□J
⚠	R175, R176	RD1/4PMFL821J
⚠	R189, R190	RD1/4PMF472J
	R101, R102, R104 – R109, R123 – R126, R129 – R136, R139 – R146, R149 – R152, R159 – R166, R191, R192, R235, R236, R241	RD1/4PM □□□J
⚠	R110, R115 – R118, R155 – R158, R167 – R174, R177 – R186, R127, R128, R137, R138, R193, R194, R242, R111	RFA1/4PS □□□J
	R103, R112, R113, R195, R196	RS2LMF□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Screw	PBZ30P06□FMC

Speaker Switch Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S101 (SPEAKERS)	ASE-033

Pin Jack Assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C171 – C182	CKCYB3[illegible]K50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	R219 – R230	RD1/4PM □□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (CD, TUNER, TAPE1, TAPE2)	AKB-117

Balance Volume Assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C169, C170	CQMA102J50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
★	VR102 (MAIN VOLUME)	ACT-200
	R217, R218	RD1/4PM331J

Volume Assembly

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
★	VR101 (BALANCE)	ACW-136

LED Assembly

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
★	D112 (POWER)	AEL-383

Headphone Assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C184, C193	CKDYB392K50

RESISTORS

Note: When ordering resistors, convert the resistance v into code form, and then rewrite the part no. as be

Mark	Symbol & Description	Part No.
	R231 – R234	RS2LMF331J

OTHERS

Mark	Symbol & Description	Part No.
	Jack (PHONES)	AKN-045

Speaker Assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C189 – C198	CKCYB102K500
	C185 – C188	CKDYB472K500

RESISTORS

Mark	Symbol & Description	Part No.
	R239, R240	RD1/4PM100J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (SPEAKERS)	AKE-052

10. FOR HE AND HB TYPES

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

A-66X/HE and HB types are the same as the A-66X [BK]/HEZ type except for following sections.

Contrast of Miscellaneous Parts

Mark	Symbol & Description	Part No.			Remarks
		HEZ type	HE type	HB type	
	AF assembly	GWK-265	GWK-269	GWK-269	
	Pin jack assembly (A)	Non supply	Non supply	Non supply	
	Headphone assembly	Non supply	Non supply	Non supply	
	Speaker terminal assembly	Non supply	.....	.....	
	Equalizer assembly	AWF-073	AWF-076	AWF-076	
	Pin jack assembly (B)	Non supply	Non supply	Non supply	
	8P speaker terminal	.....	AKE-055	AKE-055	
⚠	AC outlets	AKP-502	AKP-502	AKP-505	
⚠ ★★	FU1, F2 Fuse (0.5A)	AEK-401	AEK-401	.....	
⚠ ★★	FU1, F2 Fuse (0.5A)	.....	.....	AEK-505	
⚠ ★★	FU3 Fuse (2.5A)	AEK-403	AEK-403	.....	
⚠ ★★	FU3 Fuse (2.5A)	.....	.....	AEK-512	
	Operating instructions (German)	ARC-116	.....	.....	
	Operating instructions (English/French/German/Italian)	.....	ARE-159	.....	
	Operating instructions (English)	.....	.....	ARB-713	
⚠	Strain relief	AEC-327	AEC-882	AEC-882	
⚠	AC power cord	ADG-097	ADG-041	ADG-051	
⚠	C6 – C8 Ceramic capacitor (0.1/250V)	ACG-001	.....	.....	
⚠	C9 Ceramic capacitor (0.1/250V)	ACE-504	.....	.....	

AF Assembly (GWK-269)

The AF Assembly (GWK-269) is the same as the (GWK-265) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		GWK-265	GWK-269	
	L101, L102 Coil	ATH-060	ATH-110	
	R193, R194	RS1LMF101J	RS1LMF100J	

Pin Jack Assembly (A)

The Pin Jack Assembly (HE and HB types) are the same as the (HEZ type) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HEZ type	HE and HBtypes	
	C171 – C182 R219 – R228	CKCYB391K50 RD1/4PM561J	..... RD1/4PM101J	

Headphone Assembly

The Headphone Assembly (HE and HB types) are the same as the (HEZ type) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HEZ type	HE and HB types	
	C183, C184	CKDYB392K50	.....	

Pin Jack Assembly (B)

The Pin Jack Assembly (HE and HB types) are the same as the (HEZ type) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		HEZ type	HE and HBtypes	
	C509 – C514 R513 – R518	CKDYB391K50 RD1/4PM561J	..... RD1/4PM101J	

Equalizer Assembly (AWF-076)

The Equalizer Assembly (AWF-076) is the same as the (AWF-073) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWF-073	AWF-076	
	C701, C702 C703, C704 L701, L702 R733, R734	CKDYB391K50 ..... ATH-132 RD1/4P102J	..... CQMA103J50	